Canadian Institutes of Health Research | Instituts de recherche en santé du Canada

Canadian Institutes of Health Research

2010-2011 Estimates

Part III -- Report on Plans and Priorities

Leona Aglukkaq
Minister of Health

Canada

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Minister's Message

It is my pleasure to present to my parliamentary colleagues, and all Canadians, the Canadian Institutes of Health Research (CIHR) Report on Plans and Priorities for the fiscal year 2010-2011.

As a member of the Government of Canada's Health Portfolio, CIHR funds research that aims to improve the health of Canadians, strengthen Canada's health care system and produce more effective products and services. CIHR supports nearly 13,000 health researchers and trainees in universities, teaching hospitals and other health research centres across the country. This support is critical to maintaining a vibrant, innovative and stable health research environment in Canada. As a result of this work, CIHR is playing a key role in helping the Government achieve the objectives of its Science &Technology Strategy.

Health research plays a pivotal role in improving health and saving lives. It provides the necessary evidence about the effectiveness of current treatments and health-care practices, information critical to optimize the quality and sustainability of Canada's health-care system. CIHR's investments directly contribute to our international competitiveness and economic well-being.

In October 2009, CIHR launched a new five-year strategic plan – *Health Research Roadmap: Creating innovative research for better health and health care* – which sets out its vision to secure Canada's place as a destination of choice in the world for health research. The plan establishes four strategic directions that will guide the organization's efforts over the next five years and demonstrate accountability and impact.

In 2010-2011, CIHR will continue the roll-out of *Health Research Roadmap* with new initiatives to: conduct research that supports the best minds and the brightest ideas; address health and health system research priorities and foster a greater integration of research into health care; accelerate the capture of health and economic benefits of health research in all sectors; and become a leading-edge organization in achieving results for Canadians.

With these new strategic directions, CIHR will embrace its mandate in all of its complexity and will show leadership domestically and internationally. I applaud CIHR for the work it is doing on behalf of Canadians.

Leona Aglukkaq, P.C., M.P
Minister of Health

CIHR is the Government of Canada's health research funding agency. It was created in June 2000 by the CIHR Act (Bill C-13) with a mandate "to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system".

CIHR was designed to respond to evolving needs for health research, and this is reflected in the difference of its mandate from that of its predecessor, the Medical Research Council of Canada. CIHR's mandate seeks to transform health research in Canada by:

- funding more research on targeted priority areas, and not only "open" basic biomedical research;
- placing a greater emphasis on the strength of the research community by building research capacity in under-developed areas and training the next generation of health researchers; and
- focusing on knowledge translation that facilitates the application of the results of research and their transformation into new policies, practices, procedures, products and services.

CIHR has thirteen Institutes:

- The Institute of Aboriginal Peoples' Health
- The Institute of Aging
- The Institute of Cancer Research
- The Institute of Circulatory and Respiratory Health
- The Institute of Gender and Health
- The Institute of Genetics
- The Institute of Health Services and Policy Research
- The Institute of Human Development, Child and Youth Health
- The Institute of Infection and Immunity
- The Institute of Musculoskeletal Health and Arthritis
- The Institute of Neurosciences, Mental Health and Addiction
- The Institute of Nutrition, Metabolism and Diabetes
- The Institute of Population and Public Health

These institutes are not "bricks-and-mortar" buildings but communities of experts. Each Institute supports a broad spectrum of research in its topic area: biomedical, clinical, health services and systems, and population and public health. Institutes form national research networks linking researchers, funders and knowledge users across Canada to work on priority areas. CIHR's innovative structure has been recognized around the world as a global best practice for supporting a problem-based, multidisciplinary and collaborative approach to health research.

CIHR reports through the Minister of Health and plays a key role in the Health Portfolio, the focal point for the Government of Canada's health-related activities. As Canada's health research funding agency, CIHR makes an essential contribution to the Minister of Health's overall responsibilities by funding the research and knowledge translation needed to inform the evolution of Canadian health policy and regulation. This is achieved through an extensive and growing set of linkages with Health Canada and the Public Health Agency of Canada, providing decision-makers with access to high quality and timely health research knowledge.

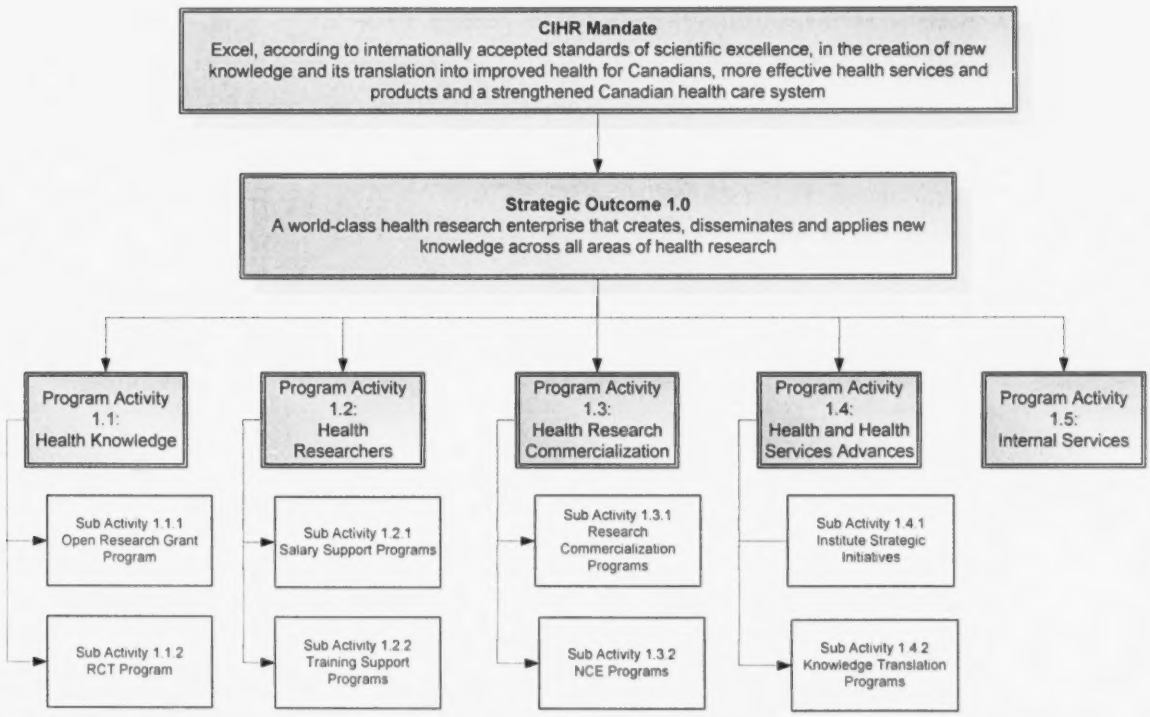
CIHR works closely with the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC), the two Granting Councils of the Industry portfolio, to share information and co-ordinate efforts, harmonize practices, avoid duplication and foster multi-disciplinary research. The three organizations (referred to often as "Tri-Council") also try to make it easier for researchers and others to communicate with them, by providing single-window access whenever possible.

CIHR's governance structure accords closely with its Program Activity Architecture (discussed in the following section). Governing Council (GC) sets the strategic directions and evaluates the performance, supported by seven sub-committees. Leadership on research, knowledge translation and funding for research is provided by the Scientific Council (SC) and leadership on corporate policy and management is provided by the Executive Management Committee (EMC).

Strategic Outcomes and Program Activity Architecture (PAA)

CIHR's Program Activity Architecture (PAA), approved by Treasury Board in May 2009, is shown in Figure 1 below. The PAA consists of one Strategic Outcome and five Program Activities that support the Strategic Outcome. The performance information presented in Section II is organized according to this PAA structure.

Figure 1: CIHR's Program Activity Architecture


CIHR Mandate
Excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system
Strategic Outcome 1.0
A world-class health research enterprise that creates, disseminates and applies new knowledge across all areas of health research
Program Activity 1.1: Health Knowledge
Program Activity 1.2: Health Researchers
Program Activity 1.3: Health Research Commercialization
Program Activity 1.4: Health and Health Services Advances
Program Activity 1.5: Internal Services
Sub Activity 1.1.1 Open Research Grant Program
Sub Activity 1.1.2 RCT Program
Sub Activity 1.2.1 Salary Support Programs
Sub Activity 1.2.2 Training Support Programs
Sub Activity 1.3.1 Research Commercialization Programs
Sub Activity 1.3.2 NCE Programs
Sub Activity 1.4.1 Institute Strategic Initiatives
Sub Activity 1.4.2 Knowledge Translation Programs

RCT: Randomized Control Trials NCE: Networks of Centres of Excellence

The new PAA will better align CIHR's Management, Resources and Results Structure (MRRS) with the mandate and vision of CIHR; enable CIHR to better collect sound financial and non-financial information, results and other key data on program activities to support informed decisions on program management and new program proposals; and ensure CIHR is better able to provide both Parliamentarians and Canadians with improved public performance reporting based on sound financial and non-financial performance information.

Under the new PAA, CIHR has one Strategic Outcome – "A world-class health research enterprise that creates, disseminates and applies new knowledge across all areas of health research" rather than three in the previous version of the PAA. The new Strategic Outcome aligns directly aligns to CIHR's mandate to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system.

The table below provides a crosswalk between the new 2010-2011 PAA and the 2009-10 version at both the Program Activity and sub-Activity levels.

PAA Crosswalk – Program Activity Level Integration of 2009-10 Program Activities into 2010-11 Program Activities	
2010-2011 Program Activity	**2009-2010 Program Activity**
PA 1.1 Health Knowledge	PA 1.1 Open Research
	PA 2.2 Research Resources and Collaborations
	PA 2.4 Ethical, Legal and Social Issues
PA 1.2 Health Researchers	PA 2.1 Researchers and Trainees
PA 1.3 Health Research Commercialization	PA 3.2 Commercialization of Health Research
PA 1.4 Health and Health Services Advances	PA 1.2 Strategic Priority Research
	PA 2.3 National and International Partnerships
	PA 3.1 Knowledge Translation of Health Research
PAA Crosswalk at the Sub-Activity Level	
2010-2011 Sub-Activity	**2009-2010 Program Activity/Sub-Activity**
SA 1.1.1 Open Research Grant Program	SA 1.1.1 Open Operating Grant Program
	PA 2.2 Research Resources and Collaborations*
	PA 2.4 Ethical, Legal and Social Issues*
SA 1.1.2 Randomized Control Trials (RCT) Program	SA 1.1.2 Randomized Control Trials (RCT) Program
SA 1.2.1 Salary Support Programs	SA 2.1.1 Salary Support Programs
	SA 2.1.3 Canada Research Chairs
SA 1.2.2 Training Support Programs	SA 1.1.3 Team Grant Program
	SA 2.1.2 Training Support Programs
	SA 2.1.4 CGS Program
SA 1.3.1 Research Commercialization Programs	PA 3.2 Commercialization of Health Research*
SA 1.3.2 Networks of Centres of Excellence (NCE) Programs	SA 3.1.2 Networks of Centres of Excellence (NCE) Program

SA 1.4.1 Institute Strategic Initiatives	SA 1.2.1 SP Operating Grant Program
	SA 1.2.2 Large Strategic Initiatives Program
	SA 1.2.3 HIV/AIDS Research Initiative (RI)
	SA 1.2.4 Pandemic Preparedness RI
	SA 1.2.5 Expensive Drugs for Rare Diseases RI
	SA 1.2.6 National Anti-Drug Strategy RI
	SA 2.1.5 Strategic Salary Support
	SA 2.1.6 Strategic Training Support
	SA 2.3.1 Institute Support Grants
SA 1.4.2 Knowledge Translation Programs	SA 2.3.2 Partnership Programs
	SA 3.1.1 Knowledge Translation Program
* No sub-Activities related to this Program Activity	

Planning Summary

Financial Resources (in millions)

2010–11	2011–12	2012–13
$ 980.8	$ 945.4	$ 929.9

Human Resources (Full-Time Equivalent—FTE)

2010–11	2011–12	2012–13
430	430	430

Strategic Outcome 1: A world-class health research enterprise that creates, disseminates and applies new knowledge across all areas of health research	
Performance Indicators	**Targets**
Canadian ranking in health research intensity compared to international levels.	Maintain or increase international ranking.
Canadian number and share of world health research papers.	Maintain or increase share.
Number of citations of Canadian health research papers compared to international levels.	Maintain or increase international ranking.
Researchers per thousand workforce compared to international levels.	Maintain or increase international ranking.
Changes in health practices, programs or policies informed by CIHR-funded research.	Evidence that the work of CIHR funded researchers resulted in long-term impacts.
Diversity of research supported (by theme and Institute).	Maintain diversity of funding and increase funding in priority areas.

Program Activity	Forecast Spending 2009–10 (in millions)	Planned Spending (in millions)			Alignment to Government of Canada Outcomes
		2010–11	2011–12	2012–13	
1.1 Health Knowledge	$ 445.3	$ 449.5	$ 452.1	$ 454.2	Healthy Canadians
1.2 Health Researchers	$ 203.8	$ 201.6	$ 173.2	$ 165.2	Healthy Canadians
1.3 Health Research Commercialization	$ 51.1	$ 46.2	$ 45.7	$ 41.4	Healthy Canadians
1.4 Health and Health Services Advances	$258.4	$ 257.8	$ 249.0	$ 243.7	Healthy Canadians
1.5 Internal Services	$ 26.7	$ 25.7	$ 25.4	$ 25.4	N/A
Total Planned Spending for Strategic Outcome #1		$ 980.8	$ 945.4	$ 929.9	

Planned spending for fiscal years 2010-11 through 2012-13 is expected to decrease as compared to forecasted 2009-10 expenditures due primarily to the results of the 2008 Strategic Review exercise. The 2008 Strategic Review resulted in CIHR winding down two of its programs – the Open Team Grant program and the Intellectual Property Management program. In time, CIHR's parliamentary appropriations will be reduced by approximately $29.6M per year. In addition, the temporary funding announced in Budget 2009 for the Canada Graduate Scholarships program will sunset at the end of fiscal year 2011-12, further reducing CIHR's planned spending thereafter.

Contribution of Priorities to Strategic Outcomes

In 2003, CIHR developed its first strategic plan - *Blueprint* - to guide the newly created organization with future strategic directions. The second iteration of CIHR's five-year strategic plan, the *Health Research Roadmap*, is now being implemented. The Roadmap sets out a high-level vision, four strategic directions and supporting objectives, as well as an evaluation framework and is aligned with CIHR's corporate, business and operational priorities.

Operational Priorities	Type	Links to Program Activity	Description
Strategic Direction #1 **Invest in world-class research excellence** ▪ Training, retaining and sustaining a healthy research foundation ▪ Selecting and sustaining research excellence ▪ Promoting	On-going	1.1 Health Knowledge 1.2 Health Researchers	Research excellence is one of the benchmarks that will allow Canada to sustain its place in today's knowledge-based economy. To conduct excellent research and achieve excellent results requires: a well-trained base of investigators; a fair and transparent peer review process; and the ability to reach out to

interdisciplinary and international innovation			other disciplines and other countries for innovative proposals.
Strategic Direction #2 **Address health and health system research priorities** ▪ Setting Research Priorities	On-going	1.4 Health and Health Services Advances	As a relatively small country, Canada must carefully select its investments in health research. CIHR will increasingly focus its activities on five main priorities: enhancing patient-oriented research; supporting a high-quality, accessible and sustainable health care system; reducing health inequities, particularly for Aboriginal peoples; preparing for and responding to emerging global threats to health; and, addressing the burden of chronic disease and mental illness.
Strategic Direction #3 **Accelerate the capture of health and economic benefits of health research** ▪ Reaping socio-economic benefits from research through knowledge translation (KT) and partnerships ▪ Enhancing the application of research and its evaluation	On-going	1.3 Health Research Commercialization 1.4 Health and Health Services Advances	CIHR's role in knowledge translation (KT) is to promote the dissemination and application of new knowledge to improve health outcomes for Canadians, more effective health services and products and a strengthened health care system. CIHR will facilitate and strengthen collaborations between researchers and knowledge users including health care professionals, public policy makers and industry. In addition, CIHR will continue to advance the science of KT and build the capacity of researchers and knowledge users to engage in KT.

CIHR strives continually to strengthen its operations and programming while fostering a dedicated, well-informed workforce. The organization's leadership, responsible management, continuous improvement practices and high-quality work environment demonstrate an on-going commitment to organizational excellence. Moreover, CIHR has consistently ensured that the cost of its operations are at or below 6% of its total appropriations thus ensuring the vast bulk of its funding goes directly to support world-class health research and researchers.

Management Priorities	Type	Links to Program Activity	Description
Strategic Direction #4 **Achieve organizational excellence, foster ethics and demonstrate impact** • Advancing organizational excellence and ensuring transparency and accountability • Fostering a culture of ethics • Assessing progress and impact	On-going	Internal Services	CIHR will continue to strive for organizational excellence. CIHR will continue to offer a world-class working environment and engage and retain a motivated, committed and productive workforce. The agency's innovative multi-year investment planning process will be supported by sound financial and risk management practices. CIHR will improve the quality, efficiency and effectiveness of its program delivery systems and reduce complexity for stakeholders. CIHR will foster a culture of ethical research by building capacity in ethics research, encouraging health researchers to consider the ethical issues inherent in their research and developing ethics and integrity polices and guidelines in keeping with CIHR's mandate as a researcher funder. CIHR is committed to continuously assessing its performance and demonstrating the benefits of its investments. CIHR will undertake its second international review in 2010/11. The review will be conducted by an independent blue-ribbon panel of experts and draw conclusions on the performance of CIHR and its 13 Institutes and identify opportunities for improvement. In addition, CIHR will commence publishing annual implementation plans for the Health Research Roadmap that will detail how each of the Strategic Directions will be addressed during the period and report on progress towards completion of the planned initiatives and key results.

CIHR understands the importance of risk management and is committed to ensuring that risk management considerations are integrated into its strategic and operational planning, business processes and decision-making. In 2009/10 Governing Council approved the Risk Management Framework that sets out how CIHR identifies, assesses and mitigates risk. The Framework also provides a governance model that promotes accountability for risk management.

CIHR's new Strategic Plan sets out an ambitious agenda that will enable the Agency to realize its full mandate in all its complexity, show leadership within the wider health research community and demonstrate accountability and results to the people of Canada. The Plan is not without risk and sound risk management will play a critical role in whether CIHR will be successful in meeting its goals.

Critical risks related to implementing the Health Research Roadmap include:

- The risk that key stakeholders, including students and researchers, universities and other research institutions and other funders of health research such as other governmental organizations, charities and the private sector, do not understand or support the Plan. This risk will be mitigated by actively communicating and consulting with all affected parties. CIHR will need to demonstrate flexibility, adjusting the Plan as required to better respond to new developments and the evolving needs and priorities of others.

- The Plan is also contingent on the successful implementation of a number of key reforms including: how peer review is conducted; establishing a fully integrated suite of open programs that can support excellence in all pillars and across all stages of a researcher's career; and a new focused approach for ensuring that strategic investments address specific health research and system priorities. Individually and collectively these reforms pose significant challenges and risk. Interdependencies amongst the reforms mean that they must be implemented concurrently. Staff will have to maintain existing systems/processes during the development period and manage a phased transition from old to new. The project management resources, expertise and experience to manage an implementation of this scale and complexity are limited and must compete with other activities such as the International Review Panel for staff time.

  Management has already taken steps to prepare the organization for this challenge. A re-organization of CIHR's four portfolios was completed in 2009/10 and leads have been identified for all key activities. Internal reallocation has freed up resources to permit CIHR to acquire the skill sets and leadership experience required to manage complex change. A Health Research Roadmap Implementation Office has been established to provide managers with key project management tools as well as effective oversight of the various initiatives to ensure that issues are rapidly identified and resolved. Should the timelines for implementation prove not to be feasible, the pace of the reforms will be re-calibrated and the Plan adjusted accordingly.

- Finally, the Plan is creating high expectations within the research community as well as for CIHR's partners. CIHR firmly believes that it must be accountable for implementing the Plan and transparent regarding its impacts. To ensure that the *Health Research Roadmap* truly guides CIHR's activities, annual implementation plans will be published that will detail how the strategic directions have been addressed to date by highlighting uptake, progress and completion of identified activities as well as activities planned for the next fiscal year.

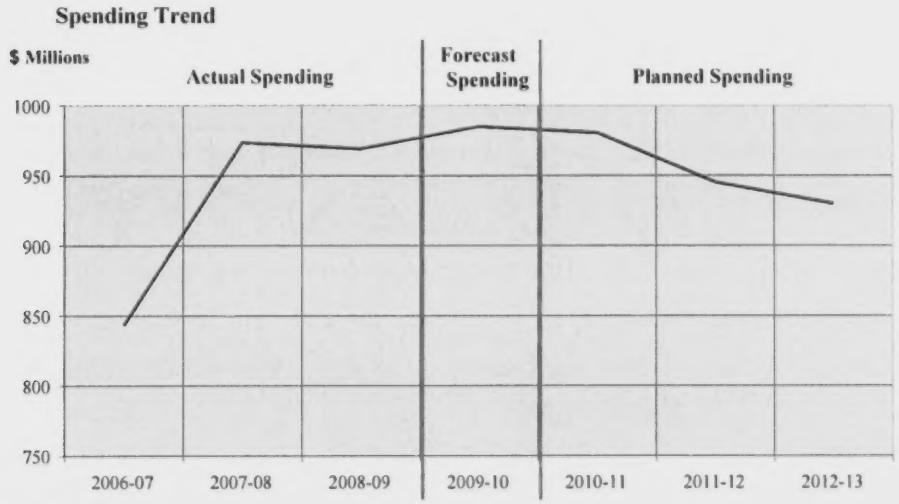
Canada's Economic Action Plan

The Government of Canada's 2009 Budget, *Canada's Economic Action Plan*, provided CIHR with funding to temporarily expand the Canada Graduate Scholarships (CGS) program, which provides financial support to the most outstanding eligible students pursuing Master's or doctoral studies at a Canadian university. Budget 2009 builds on investments made in previous budgets by providing an additional $35 million over three years; $14 million for 2009-10, $14 million for 2010-11, and $7 million for 2011-12. It will provide for an additional 200 doctoral scholarships, valued at $35,000 each per year for three years, beginning in 2009-10, and an additional 400 master's scholarships, valued at $17,500 each for one year, in both 2009-10 and 2010-11.

The CGS program is sub-sub-Activity 1.2.2.2 under Program Activity 1.2 Health Researchers in CIHR's Program Activity Architecture. More information on this Program Activity can be found in Section 2.

Departmental Spending Trend

CIHR expenditures increased every year from its inception in 2000 through 2007-08, however, spending has remained fairly constant in recent years. Spending is expected to decrease slightly each year over the next three fiscal years, based on current spending authorities.



Expenditures increased by approximately $130.8M in 2007-08 from $843.3M to $974.1M due to several new government funding initiatives led by CIHR. During the 2007-08 fiscal year, CIHR incurred $73.5M in up-front expenditures for the new Centres of Excellence for Commercialization and Research Program (CECR), a key element of Canada's S&T strategy that will create an environment that encourages innovation partnerships between the academic, private and public sectors. CIHR also received a $37M base budget increase in the 2007 Federal Budget, and increases to its HIV/AIDS research program, the Canada Research Chairs Program, the International Polar Year initiative, and the National Anti-Drug Strategy Research Initiative.

Total CIHR spending in 2008-09 decreased by approximately $ 4.7 million as compared to 2007-08 as a result of no further expenditures within the CECR Program, largely offset by increases in expenditures arising from a $34M base increase in Budget 2008 and funding for new programs such as the Vanier Canada Graduate Scholarships, Foreign Study Stipends and Business-Led Networks Centres of Excellence.

Forecast spending is expected to increase in 2009-10 to approximately $985.3M from approximately $969.4M in 2008-09, due primarily to increased appropriations for the CIHR Canada Graduate Scholarships program. As part of Budget 2009, the CIHR Canada Graduate Scholarships program was temporarily expanded with the goal of ensuring a reliable supply of highly skilled workers for Canada going forward. CIHR received an additional $14M through Budget 2009 to help achieve this goal for the 2009-2010 fiscal year.

Planned spending for fiscal years 2010-11 through 2012-13 is expected to decrease as compared to forecasted 2009-10 expenditures due primarily to the results of the 2008 Strategic Review exercise. The 2008 Strategic Review resulted in CIHR winding down two of its programs – the Open Team Grant program and the Intellectual Property Management program. In time, CIHR's parliamentary appropriations will be reduced by approximately $29.6M per year. Health researchers previously funded through these two programs will be eligible to apply for CIHR grants through other open competition programs (e.g. CIHR's largest program, the Open Operating Grant program) as well as strategic programs designed to foster commercialization, including the new Business-Led Networks of Centres of Excellence program. In addition, the temporary funding announced in Budget 2009 for the Canada Graduate Scholarships program will sunset at the end of fiscal year 2011-12, further reducing CIHR's planned spending thereafter.

Voted and Statutory Items

(in millions)

Vote # or Statutory Item (S)	Truncated Vote or Statutory Wording	2009–10 Main Estimates	2010–11 Main Estimates
20	Operating Expenditures	$ 43.2	$ 49.0
25	Grants And Contributions	$ 876.7	$ 926.9
(S)	Contributions To Employee Benefit Plans	$ 4.4	$ 4.9
	TOTAL	**$ 924.3**	**$ 980.8**

The 2010-11 CIHR Main Estimates exceed the 2009-10 Main Estimates by $56.5M, due in part to funding announced for CIHR in the 2008 and 2009 federal budgets as well as the launch of several new programs.

In Budget 2008, the government allocated CIHR a permanent base budget increase of $34M. Due to timing issues, this $34M amount was not included in CIHR's 2009-10 Main Estimates, but is included in the 2010-11 Main Estimates. In Budget 2009, the federal government announced a temporary expansion of the Canada Graduate Scholarships program. This will see CIHR spend an additional $14M on Canada Graduate Scholarships in 2010-11 as compared to 2008-09. The primary goal of the Canada Graduate Scholarships program is to ensure Canada has a reliable supply of highly-skilled personnel in the knowledge economy going forward.

New programs were launched recently which have led to CIHR's Main Estimates increasing for 2010-11. The new Drug Safety and Effectiveness network program ($6.9 million) and the Business-Led Networks of Centres of Excellence ($1.7M) are reflected in the 2010-11 Main Estimates for the first time. The Drug Safety and Effectiveness Network has been established at CIHR as part of the Government of Canada's *Food and Consumer Safety Action Plan* (FCSAP), with the goal of increasing available evidence on drug safety and effectiveness to regulators, policy-makers, health care providers and patients. This will increase capacity within Canada to undertake high-quality post-market research in this area. The goals of the Business-Led Networks of Centres of Excellence program are to focus on areas of research in the national interest to make Canada more competitive internationally; to foster a culture of public-private research partnerships; and to enhance opportunities for Science and Technology Graduates.

Incremental funding for the Vanier Canada Graduate Scholarship (CGS) program increased in the 2010-11 Main Estimates by approximately $2.8M. The Vanier CGS Program is designed to attract and retain world-class doctoral students by offering them a significant financial award to assist them during their studies at Canadian universities. This program will further ensure Canada a reliable supply of highly skilled personnel in the future.

The 2010-11 Main Estimates also include reductions to CIHR's parliamentary appropriations totalling approximately $7.5M due to the results of the 2008 Strategic Review. The winding down of CIHR's Open Team Grant program and its Intellectual Property Management program is due to a re-organization of CIHR's priorities.

In addition, transfers from other government departments included in the 2010-11 CIHR Main Estimates exceed those that were included in the 2009-10 Main Estimates by approximately $4.6M. CIHR will often partner with other government departments (e.g. Public Health Agency of Canada, Health Canada) as it recognizes that effective health research needs the collective effort of the many people and organizations committed to making Canadians healthier and to building an effective health care system.

SECTION II -- Analysis of Program Activities by Strategic Outcome

Strategic Outcome 1: **A world-class health research enterprise that creates, disseminates and applies new knowledge across all areas of health research.**

CIHR supports health research in order to improve the health of Canadians and to deliver more effective health care services to Canadians. Supporting health research that leads to this outcome may be through: creating health knowledge which leads to the development of new and better ways to prevent, diagnose and treat disease; ensuring Canada has top quality health researchers who can conduct health research; commercializing health research discoveries; or advancing the delivery of the health services that Canadians need, when and where they need them.

CIHR supports all of these approaches to better health, through four program activities: Health Knowledge; Health Researchers; Health Research Commercialization; and Health and Health Services Advances. All of CIHR's programs are aligned with the "Healthy Canadians" Government of Canada outcome.

Program Activity 1.1: Health Knowledge

This Program Activity supports the creation of new knowledge across all areas of health research to improve health and the health system. This is achieved by managing CIHR's open competition and related peer review processes based on internationally accepted standards of scientific excellence.

Human Resources (FTEs) and Planned Spending (in millions)					
2010-11		**2011-12**		**2012-13**	
FTEs	**Planned Spending**	**FTEs**	**Planned Spending**	**FTEs**	**Planned Spending**
77	$ 449.5	77	$ 452.1	77	$ 454.2
Program Activity Expected Results		**Performance Indicators**		**Targets**	
Health research advances knowledge.		Outputs and impacts of CIHR-funded research.		Maintain or increase: ▪ Number of publications from CIHR-supported research; ▪ KT activities of CIHR-funded researchers; ▪ Total number and average dollar value of grants funded.	

Planning Highlights

The Open Research Grant Program provides operating funds to support research proposals in all areas of health research.

- The Open Operating Grants Program is the largest component of this program. Competitions are typically held each March and September with an open call for research proposals, with no restrictions on areas of research or maximum level of requested funds. This means that research scientists are free to apply for funding for projects in any area of health, as they are in the best position to know what lines of inquiry are most likely to yield discoveries. All proposals are subject to the highest international standards of peer review to ensure excellence. In 2010-11, CIHR intends to launch two competitions each of which is expected to approve approximately 400 new multi-year

proposals for funding. This will result in approximately 4,000 ongoing multi-year grants with total planned spending of $407.1 million.

- The Randomized Controlled Trial Program supports experiments to evaluate the efficiency and effectiveness of interventions in health or health services by randomly assigning individuals to receive or not receive one or more interventions that are being compared. The results are analyzed by comparing outcomes in the different groups. The average value and duration of grants under the RCT Program is significantly greater than that of the Open Research Grant Program. In 2010-11, CIHR plans expenditures of approximately $30.7 million for randomized control trials.

Benefits for Canadians

Canadians benefit from this health knowledge in a number of ways. Some research is aimed at immediate solutions such as finding ways of making the delivery of health services more efficient, while more basic research lays ground work for developing cures, for example by identifying the properties of specific proteins.

The work being done by Dr. Samuel Weiss provides a good example of the benefits that can accrue from enhancing health knowledge. Dr. Weiss (University of Calgary), one of three Canadian recipients of the Gairdner Foundation International Award [1] in 2008, was recognized for his discovery of neural stem cells in adult mammals. That groundbreaking discovery has lead scientists around the world to investigate how to stimulate those cells to heal the brain. It is anticipated that Weiss' work will lead to new treatments for people with devastating brain diseases and spinal cord injuries.

Program Activity 1.2: Health Researchers

This Program Activity aims to build health research capacity to improve health and the health system by supporting the training and careers of excellent health researchers through a competitive peer review process based on internationally accepted standards of scientific excellence.

Human Resources (FTEs) and Planned Spending (in millions)					
2010-11		2011-12		2012-13	
FTEs	**Planned Spending**	**FTEs**	**Planned Spending**	**FTEs**	**Planned Spending**
30	$ 201.6	30	$ 173.2	30	$ 165.2
Program Activity Expected Results		**Performance Indicators**		**Targets**	
A strong and talented health research community with the capacity to undertake health research.		Number, types and share of graduate trainees in Canada compared to international levels.		Maintain or increase international ranking.	
		Number and fields of investigators and trainees funded.		Maintain number and diversity (by theme and Institute domain) of trainees funded.	

[1] For the past 48 years, these annual awards, named after Toronto businessman, James Gairdner, have recognized the work of the world's leading scientists and increased public awareness of the value of scientific research and discovery. Historically, one in four Gairdner awardees has gone on to win a Nobel Prize.

Planning Highlights

The Salary Support Programs provide salary support to help new health researchers develop their careers and devote more time to initiating and conducting health research. There is intense competition globally for talent and CIHR's programs are designed to attract and keep the brightest minds in Canada throughout their research careers. Young investigators will continue to be supported through the awarding of salary support awards that will enable them to devote more time to research.

- The Open Salary Support Program provides salary support to help new health researchers develop their careers and devote more time to initiating and conducting health research in any area related to health. In 2010-11, CIHR plans to spend $14.6 million on salary support programs which will provide 278 researchers with $0.3 million for new awards in 2010-11 and $14.3 million committed to previously approved salary support awards.

A number of programs within this Program Activity are administered in collaboration with the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council. They are often referred to as Tri-Council programs. They include:

- The Canada Research Chairs Program (CRC), which aims to attract and retain some of the world's most accomplished and promising researchers. CIHR provides two levels of salary support awards that are allocated to universities and research institutes who recruit researchers into the "Chair" positions. The CRC Program provides long term funding to outstanding researchers nominated by Canadian universities and other eligible academic institutions. The three Councils support a total of 2,000 Chairs in all disciplines including the 700 Chairs in the health and life sciences domains managed by CIHR. In 2010-11 CIHR plans to spend $103.6M of which $72.2M is already committed to previously approved Canada Research Chairs and $31.5M will be related to the new Chairs approved in 2010-11.

- The new Canada Excellence Research Chairs (CERC) program, announced in Budget 2008 and launched in September 2008. This Tri-Council program has a two stage competitive selection process: universities compete for the opportunity to establish Chairs in Phase 1 of the process and universities on the shortlist are invited to submit nominations in Phase 2. Up to 20 Chair positions will be funded and the announcement of the results of the first competition is anticipated for the spring of 2010. There will be a minimum of three Chairs created in health and related life science and technologies. CIHR will provide each with up to $10M over seven years to support the CERC holders to establish ambitious research programs in Canada. Until the results of this competition are known, CIHR will not be able to submit a request to Treasury Board to access the Grants funding. As a result, no additional CERC funds are included in the tables in this RPP.

In 2010-11, CIHR will address the results of its evaluation of the Canada Research Chairs Program and the Salary Support Programs. In addition, recommendations from the audit of the non-financial administration of the Salary Support Programs will be implemented during this period.

The Training Support Programs provide support and special recognition to master, doctorate, post-doctorate or post-health professional degree students who are training in health research areas in Canada or abroad. These programs include the Open Training Support Program, the Canada Graduate Scholarship Program, and the Vanier Program.

- The Open Training Support Programs provide support and special recognition to master, doctorate, post doctorate or post health professional degree students who are training in any area of health

research in Canada or abroad. In 2010-11, CIHR plans to spend $18.6M on training support programs which will provide 522 researchers with $1.1M for new awards in 2010-11 and $17.5M committed to previously approved awards.

Tri-Council programs include:

- The Canada Graduate Scholarship Program (CGS), which develops future health researchers at both the Masters and Doctoral levels in all health-related fields in Canada by supporting them financially as they obtain their graduate degrees. In Budget 2009, *Canada's Economic Action Plan*, the government announced that it would provide an additional $35M to CIHR, over three years beginning in 2009-2010, to temporarily expand the CGS program. CIHR will receive $35M (in addition to its base funding) to fund 200 new three-year Doctoral Awards, starting in 2009-2010, and 400 new one-year Master's Awards in each of 2009-2010 and 2010-2011.

- The Vanier CGS Program, which will enable Canada to build world-class research capacity by attracting the best doctoral students both nationally and internationally. This program is expected to become Canada's flagship scholarship program capable of competing internationally with programs such as the Rhodes and Fulbright Scholarships. CIHR, together with the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council, implemented modifications to the Vanier CGS Program in 2009-10 to address areas of improvement identified in an evaluation. In 2010-11, CIHR plans to expend $5.5M on the Program to support approximately 55 new scholarships and 56 ongoing scholarships.

Benefits for Canadians

Canadians benefit from this program activity by having a strong research community able to deal with current health challenges and by the economic benefits that innovation creates. CIHR supports more than 2,500 individuals, including undergraduates, masters and doctoral students, postdoctoral fellows and new investigators/researchers who are just getting started in their independent research careers, as well as more than 5,000 trainees indirectly supported from CIHR grants held by researchers.

The calibre of these researchers emerges when one looks at, for example, Dr. John C. Bell, who noticed early in his career that the lack of success of traditional forms of cancer therapy might be related to a cancer's ability to adapt to its environment. Over the years, Dr. Bell has successfully shown that genetically modified viruses can be used as a desirable, targeted therapeutic for treating cancer by infecting and killing cancer cells all the while leaving normal cells unaffected. In 2008, Dr. Bell and his colleagues published groundbreaking clinical results which showed a genetically-modified virus successfully treating primary and metastatic liver cancer. CIHR has supported and continues to support Dr. Bell's innovative work in cancer research.

Program Activity 1.3: Health Research Commercialization

This program activity supports and facilitates the commercialization of health research to improve health and the health system. This is achieved by managing funding competitions to provide grants, in partnership with the private sector (where relevant); by using peer review processes based on internationally accepted standards of scientific excellence; and by building and strengthening the capacity of Canadian health researchers to engage in the commercialization process.

Human Resources (FTEs) and Planned Spending (in millions)					
2010-11		2011-12		2012-13	
FTEs	**Planned Spending**	**FTEs**	**Planned Spending**	**FTEs**	**Planned Spending**
6	$ 46.2	6	$ 45.7	6	$ 41.4
Program Activity Expected Results		**Performance Indicators**		**Targets**	
Commercial activity – products (patents and intellectual property), companies and employment generated.		• Health research is commercialized more effectively. • Strong linkages and partnerships created between universities, governments, industry, and other users.		Maintain or increase: • Numbers of patents, licenses, copyrights, centres; • New products or processes; • Policies influenced or created; • Influence on health delivery.	

Planning Highlights

The Research Commercialization Programs are a suite of funding initiatives that aim to support the creation of new knowledge, practices, products and services and to facilitate the commercialization of this knowledge. This is done by funding research commercialization projects (such as proof of principle projects) which encourage collaboration between academia and industry in the promotion and support of the commercial transfer of knowledge and technology resulting from health research. In 2010-11, CIHR is planning expenditures of $16.4M for research commercialization programs.

The Networks of Centres of Excellence Programs (NCE) are delivered collaboratively by NSERC, SSHRC, and CIHR through the NCE Secretariat. They support the networking of centres of research excellence with industrial know-how and strategic investment to turn Canadian research and entrepreneurial talent into economic and social benefits for Canada. These programs also help achieve the objectives of the Federal Government's S&T Strategy. Seventeen Centres of Excellence were selected between 2008 and 2009 and will receive funding until 2013-2014. CIHR is funding 11 of these.

The Networks of Centres of Excellence programs are national in scope, multi-disciplinary and involve multi-sectoral partnerships. These programs include the Network of Centres of Excellence Grants, the Business-Led Networks of Centres of Excellence Program, and the Centres of Excellence for Commercialization and Research Program (CECR).

- CIHR provides funds to support the best NCE applications in the area of health research through the Network of Centres of Excellence Grants. In 2010-2011, 19 NCE will receive Tri-Council funding. Of these, 12 will receive funding from CIHR. In 2011-2012, CIHR will be funding nine of 13 NCE, and in 2012-2013, 2 of 4 Networks will receive CIHR funds. In 2010-11, CIHR plans to expend $27.5M on these grants.

- The Business-Led Networks of Centres of Excellence Program (BL-NCE) funds large scale collaborative networks to perform research to support private sector innovation in order to deliver economic, health, social and environmental benefits to Canadians. In 2010-11, CIHR plans to expend $1.7M on the BL-NCE supporting innovation in health.

- Currently, 17 Centres of Excellence for Commercialization and Research are in operation. CECR competitions are being held in 2010-2011, and the decisions resulting from this process may result in CIHR funding in 2010-2011.

Benefits to Canadians

Turning knowledge into new commercial products and services generates wealth for Canadians and supports the quality of life and health outcomes we all want. It can also create sustainable employment for highly skilled workers. For example, biomedical engineers Dr. Peter Cripton and PhD student Tim Nelson at the University of British Columbia, have invented a revolutionary helmet designed to guard the spine and protect the head, thereby reducing the risk of paralysis from head-first impacts in sports. Additional funding from CIHR this year will help move the helmet closer to commercial reality.

Program Activity 1.4: Health and Health Services Advances

Through the competitive peer review process, based on internationally accepted standards of scientific excellence, these programs aim to support the creation of new knowledge in strategic priority areas and its translation into improved health and a strengthened health system.

Human Resources (FTEs) and Planned Spending (in millions)					
2010-11		**2011-12**		**2012-13**	
FTEs	**Planned Spending**	**FTEs**	**Planned Spending**	**FTEs**	**Planned Spending**
116	$ 257.8	116	$ 249.0	116	$ 243.7
Program Activity Expected Results		**Performance Indicators**		**Targets**	
Translation and use of health research takes place as a result of effective funding programs.		• Outputs and impacts of CIHR funded research. • Evidence of Institutes emerging leadership within the research community.		Increase or maintain: • Number and average dollar value and duration of grants funded; • Number of publications from CIHR funded research; • KT activities of CIHR-funded researchers.	

Planning Highlights

The Knowledge Translation (KT) Program consists of a suite of funding opportunities that aim to support the synthesis, dissemination, exchange and ethically sound application of knowledge in any area of health research. These programs support the science of KT, capacity development in KT science, and integrated KT-collaborative research, which involves researchers and knowledge users working together to address relevant research questions and to exchange and apply knowledge to solve health and health system problems. In 2010-11, CIHR plans to spend $18.1M on various initiatives supporting knowledge translation.

The Institute Strategic Initiatives Program is led by CIHR's 13 Institutes and funds grants to support research and awards to support trainees and researchers in strategic priority areas to address health opportunities, threats and challenges to Canadians. The Institutes identify these areas in consultation with stakeholders from government, health care, patient and community groups, researchers, and industry. Proposals are solicited from researchers by issuing a Request for Applications outlining the specific theme/area where research is needed. Applications are peer reviewed using criteria specific to the funding opportunity. In 2010-11, CIHR plans to expend $171.2M on these types of initiatives.

CIHR also funds large strategic initiatives, which involve a joint, cross-cutting effort involving two or more of the CIHR Institutes. These include:

- The HIV/AIDS Research Initiative, a targeted investment that supports four research streams - biomedical and clinical research, health services and population health research, community-based research and the Canadian HIV Trials Network. In 2010-11, CIHR plans to expend $22.7M on prevention and access to diagnosis, care, treatment and support for those populations most affected by the HIV/AIDS epidemic in Canada - people living with HIV/AIDS, gay men, Aboriginal people, people who use injection drugs, inmates, youth, women, and people from countries where HIV is endemic.

- The Pandemic Preparedness Strategic Research Initiative (PPSRI) identifies strategic research priorities and supports pandemic preparedness research. This targeted investment aims to identify strategies to prevent or mitigate a pandemic outbreak as well as methods and procedures to control disease spread (both human to human and from animals to humans) and to treat affected individuals. PPSRI will also develop a strong network of researchers, ensuring Canada has the necessary expertise to respond effectively in the event of a pandemic or to assist other countries in crisis. In 2010-11, CIHR plans to spend $10.5M on this initiative.

- The National Anti-Drug Strategy Treatment Research Initiative is a targeted investment to support grants for strategic research that will help develop and evaluate drug treatment models and approaches, as part of the Strategy's Treatment Action Plan. In 2010-11, CIHR plans to spend approximately $1M on this initiative.

- The Strategy on Patient-Oriented Research Initiative (NSPOR) will effectively bridge the gap between basic health research discoveries and their application to the diagnosis, treatment and prevention of human disease. It will foster a culture of inquiry at all levels of the health system by supporting people, infrastructure and programs devoted to leading-edge patient-oriented research, with the aim of ultimately improving health outcomes. In 2010-2011 CIHR plans to spend $7.5M.

- The Drug Safety and Effectiveness Network (DSEN) Initiative will link centres of excellence in post-market pharmaceutical research across Canada to facilitate targeted research to increase knowledge about the real world safety and effectiveness of drugs. This network will help assess the risks and benefits of medications currently on the market. In 2010-11, CIHR plans to spend $5.5M.

- The Regenerative Medicine and Nanomedicine Initiative (RMNI) is a major long-term CIHR initiative, co-led by the Institute of Neurosciences, Mental Health and Addiction and the Institute of Genetics. RMNI and its partners provide support for research in nanomedicine, gene therapy, stem cells, tissue engineering, and rehabilitation sciences. The fundamental goal of this initiative is the development of meaningful multi-disciplinary research approaches to regenerative medicine and nanomedicine. Research into the maintenance of health or prevention of disease and degeneration is also encompassed by this initiative. In 2010-2011, CIHR plans to spend $6.7M on this initiative.

Benefits for Canadians

The funding of health research in strategic areas has a number of benefits. First, it reduces human suffering caused by specific conditions. For example, in the area of HIV/AIDs (which has received Government of Canada funding since 1990), the World Health Organization Epidemiological Fact Sheet on Canada (2008)[2] shows the dramatic reduction in deaths in Canada due to AIDs: from 5000 annually in 1995 to 1000 in 2007. Second, research finds ways to make Canada's health system more responsive and efficient by, for example, developing more effective and/or less costly medical procedures. For example, Drs. Christine Allen and Raymond Reilly at the University of Toronto are developing a new technology that could ultimately save the lives of women with metastatic breast cancer - the most advanced stage (stage IV) of the disease. The researchers are using discoveries in nanotechnology to selectively deliver radiation to breast cancer cells for treatment. This new approach could overcome some of the challenges in treating stage IV breast cancer. The team is building specialized nanoparticles that are modified with a protein that binds them to breast cancer cells and causes them to be absorbed by the cells. Once inside the cells, the nanoparticles emit radiation that damages the DNA, killing the cells.

Program Activity 1.5: Internal Services

Internal Services are groups of related activities and resources to support the needs of programs and to meet other corporate obligations of CIHR. These services include such functional areas as Finance, Procurement, Planning, Human Resources, Informatics, Security, Information Management, Internal Audit, Evaluation and Analysis, Marketing and Communications, and Corporate Governance. Internal Services include only those activities and resources that apply across the organization and not those provided directly to a program.

As identified in the Management Priorities, CIHR will continue to strive for organizational excellence and will continue to offer a world-class working environment. (In recognition of its efforts, in 2010-2011 CIHR will be included in the annual Mediacorp Inc. survey of employers as one of Canada's Top 100 Employers for 2010, and as one of the Top 25 Employers in the National Capital Region.) CIHR will continue to foster a culture of ethical research by building capacity in ethics research. In addition, CIHR will undertake its second international review to assess its performance and determine the benefits of its investments.

Human Resources (FTEs) and Planned Spending (in millions)					
2010-11		2011-12		2012-13	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
201	$ 25.7	201	$ 25.4	201	$ 25.4

[2] http://apps.who.int/globalatlas/predefinedReports/EFS2008/full/EFS2008_CA.pdf

SECTION III -- Supplementary Information

List of Supplementary Information

- The Departmental Plan for Transfer Payment Programs (TPPs) (http://www.cihr-irsc.gc.ca/e/41045.html)
- Details on Transfer Payment Programs (TPP)
- Green Procurement
- Upcoming Internal Audits and Evaluations over the next three fiscal years
- Sources of Respendable and Non-Respendable Revenue

(All electronic supplementary information tables found in the 2010-11 Report on Plans and Priorities can be found on the Treasury Board of Canada Secretariat's web site at: http://www.tbs-sct.gc.ca/rpp/2010-2011/info/info-eng.asp.)

Other Items of Interest

1. CIHR's Strategic Plan: Health Research Roadmap: Creating innovative research for better health and health care 2009/10 - 2013/14: http://www.cihr-irsc.gc.ca/e/39977.html
2. Various CIHR Annual Reports: http://www.cihr-irsc.gc.ca/e/153.html
3. Knowledge Translation and Commercialization: http://www.cihr-irsc.gc.ca/e/29529.html
4. CIHR Institutes – More information, including Institute Strategic Plans and Annual Reports, is available through CIHR's web site: http://www.cihr-irsc.gc.ca/e/9466.html

Internet Addresses

Canadian Institutes of Health Research (CIHR) Home Page	http://www.cihr-irsc.gc.ca/e/193.html
Aboriginal Peoples' Health	http://www.cihr-irsc.gc.ca/e/8668.html
Aging	http://www.cihr-irsc.gc.ca/e/8671.html
Cancer Research	http://www.cihr-irsc.gc.ca/e/12506.html
Circulatory and Respiratory Health	http://www.cihr-irsc.gc.ca/e/8663.html
Gender and Health	http://www.cihr-irsc.gc.ca/e/8673.html
Genetics	http://www.cihr-irsc.gc.ca/e/13147.html
Health Services and Policy Research	http://www.cihr-irsc.gc.ca/e/13733.html
Human Development, Child and Youth Health	http://www.cihr-irsc.gc.ca/e/8688.html
Infection & Immunity	http://www.cihr-irsc.gc.ca/e/13533.html
Musculoskeletal Health and Arthritis	http://www.cihr-irsc.gc.ca/e/13217.html
Neurosciences, Mental Health and Addiction	http://www.cihr-irsc.gc.ca/e/8602.html
Nutrition, Metabolism and Diabetes	http://www.cihr-irsc.gc.ca/e/13521.html
Population and Public Health	http://www.cihr-irsc.gc.ca/e/13777.html